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Chinese Diesel Submarine Construction (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES
BE: Various
CHINA

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WNINTEL

Z-14619/82
RCA-09/0025/82
OCTOBER 1982
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CHINESE DIESEL SUBMARINE CONSTRUCTION (S)

INTRODUCTION

1. (S/WN) This report discusses various reasons for the steady decline in the rate of construction of Romeo-class diesel attack submarines (SSs) in China since the mid-1970s. From as many as nine Romeo SSs a year in the early 1970s, production has fallen to only three Romeo SSs per year and may go lower. This report describes pertinent construction at the shipyards involved in submarine production and includes a map, seven annotated photographs, and tabular information.

DISCUSSION

3. (S/ The number of Chinese shipyards involved in diesel submarine construction has remained the same since the early 1970s (Figure 1). At Shanghai Shipyard Kiangnan Dock Company (Co), the largest builder of Romeo SSs in China during the 1970s, all submarine construction ceased in early 1980. At Fuling Shipyard, however, submarine construction began in 1978. Fuling has extensive unused construction capacity, which may be due to the inexperience of the work force and the diminishing importance of diesel submarine construction. The 1980–1982 production output of one submarine a year is far below its capability. Diesel submarine construction at Wuhan Shipyard Wuchang and at Huangpu Naval Base and Shipyard has dropped below those levels seen during the mid-1970s (Table 1). This drop is primarily a result of a gradual shift in priorities at each shipyard. At Wuhan, a large proportion of the shipyard's resources has been allocated to submarine repair/overhaul. At Huangpu, in addition to submarine repair/overhaul, considerable emphasis has been placed on surface ship construction and construction support for the offshore oil industry. Recent information[1] indicates that submarine construction will soon cease at Huangpu in order to support those construction programs.

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4. (S/WN) Traditionally, the most significant factor determining the level of submarine construction has been the low force level of the Chinese submarine squadrons. In the early 1970s, the force level of the five submarine squadrons was so low that a major diesel submarine construction program was initiated to expand the submarine force quickly to the level of 20 submarines per squadron (Table 2). As a result of that construction program, all five submarine squadrons experienced rapid growth in force from the mid-1970s.

5. (S/WN) The Chinese have six submarine squadrons, divided equally among the three fleets (Table 2). The two squadrons in the North Sea Fleet (NSF) and East Sea Fleet (ESF) are at or slightly above strength. In the South Sea Fleet (SSF), only one of the two squadrons is near full strength. The sixth squadron, at Xiachuan Tao, was formed by the transfer of two Romeo SSs from Yulin. This is the only squadron that needs additional submarines. However, there is insufficient berthing space for more than four to six submarines at Xiachuan Tao. Because of this space limitation, it is very doubtful that any significant expansion of the SSF submarine force will occur soon. The Chinese will probably continue with a limited construction program that can provide for export sales and replacements for older Romeos.

Shanghai Shipyard Kiangnan Dock Co

6. (S/WN) From the early 1970s through 1979, submarine construction at Kiangnan had remained at the pace of at least two Romeo SSs a year. In addition to one Ming SS, at least 38 Romeos have been built at Kiangnan since the early 1960s. The last Romeo was launched there in early 1980.

7. (S/WN) Diesel submarine construction at this shipyard was halted, at least temporarily, in early 1980. However, the continued presence of large numbers of pieces of Romeo outer hull plate and pressure hull sections in open storage indicates the program may be resumed at a later date (Figure 2). The reason for the halt in construction is unclear but may be related to a contract stipulation by a Japanese company involved in a modernization program which began in late 1979 at the shipyard. The stipulation called for the halt of all military construction and repair at

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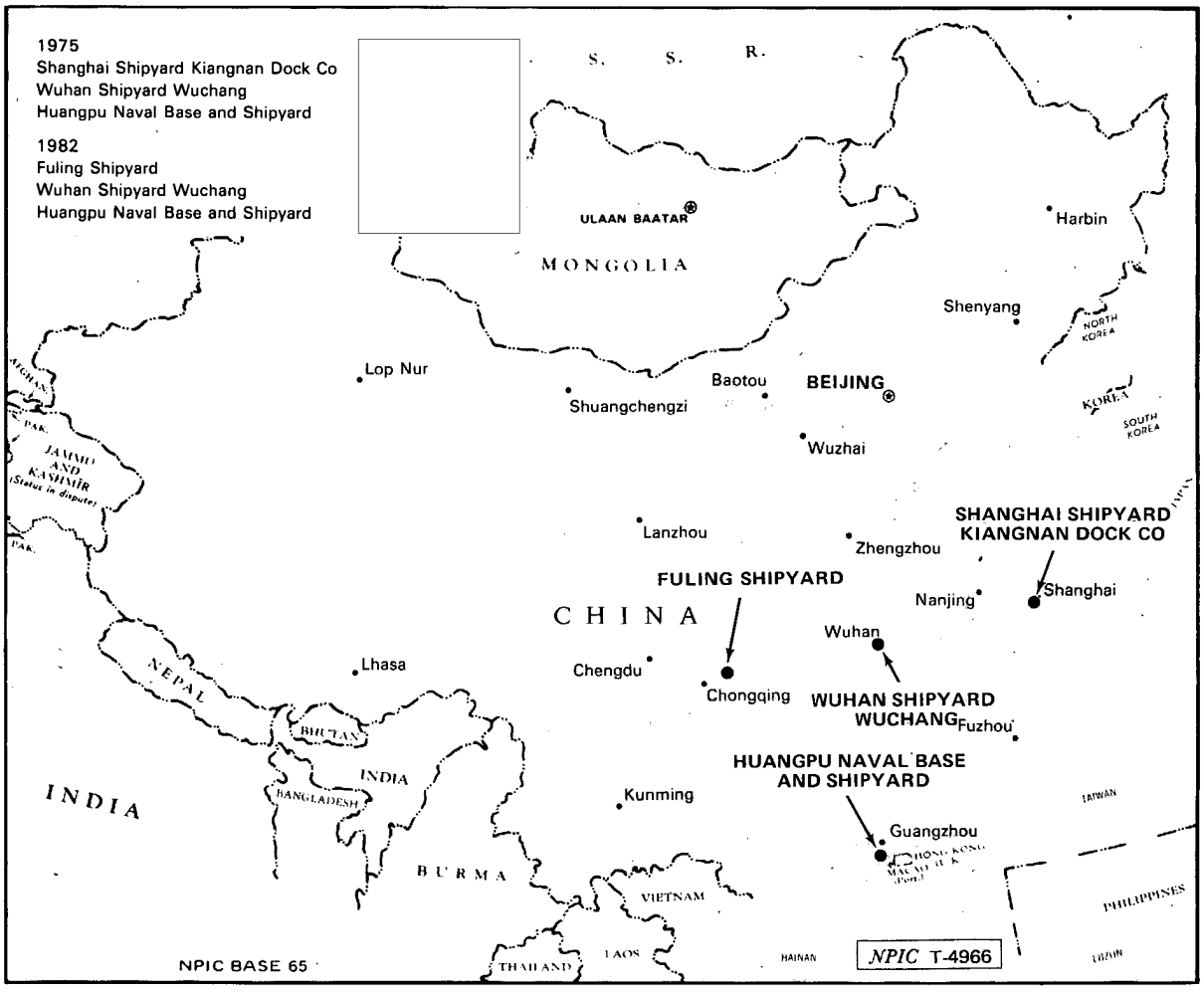

FIGURE 1. LOCATIONS OF CHINESE DIESEL SUBMARINE CONSTRUCTION SHIPYARDS, 1975–1982

Table 1.
Diesel Submarine Production, 1973–1982
This table in its entirety is classified SECRET/WNINTEL

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Shanghai Shipyard Kiangnan Dock Co	3 Romeos	4 Romeos	5 Romeos	4 Romeos	3 Romeos	2 Romeos	3 Romeos	1 Romeo	None	None
Wuhan Shipyard Wuchang	3 Romeos	3 Romeos	2 Romeos	3 Romeos	2 Romeos	2 Romeos	3 Romeos 1 Ming	2 Romeos	2 Romeos	1 Romeo (Anticipated)
Huangpu Naval Base and Shipyard	3 Romeos	2 Romeos	None Detected	None Detected	None Detected	None Detected	None Detected	1 Romeo Detected	1 Romeo Detected	1 Romeo
Fuling Shipyard	None	None	None	None	None	None	None	1 Romeo	1 Romeo	1 Romeo (Anticipated)

Table 2.
Chinese Submarine Squadrons: Force Level Growth From 1973–1981[2]
This table in its entirety is classified SECRET/ [redacted] 25X1

Name BE Number	1973	1974	1975	1976	1977	1978	1979	1980	1981
North Sea Fleet									
12th Squadron Lushun Submarine Base	5 Romeos 4 Whiskeys	5 Romeos 4 Whiskeys	5 Romeos 4 Whiskeys	5 Romeos 4 Whiskeys	6 Romeos 5 Whiskeys 1 Han SSN 1 Golf SSB	13 Romeos 2 Mings 5 Whiskeys 1 Han 1 Golf	13 Romeos 2 Mings 5 Whiskeys 1 Golf 1 Han	13 Romeos 3 Mings 5 Whiskeys 1 Han 1 Golf	14 Romeos 3 Mings 5 Whiskeys 1 Golf 1 Han
[redacted] 25X1									
2nd Squadron Qingdao Submarine Base	2 Romeos 6 Whiskeys 2 Ukns	5 Romeos 8 Whiskeys	5 Romeos 8 Whiskeys	5 Romeos 8 Whiskeys	10 Romeos 8 Whiskeys	11 Romeos 8 Whiskeys	11 Romeos 8 Whiskeys	11 Romeos 8 Whiskeys	12 Romeos 8 Whiskeys
[redacted] 25X1									
East Sea Fleet									
22nd Squadron Daxi Dao Submarine Base PUG	5 Romeos 1 S-1 5 Whiskeys	6 Romeos 1 S-1 5 Whiskeys	6 Romeos 1 S-1 5 Whiskeys	6 Romeos 1 S-1 5 Whiskeys	6 Romeos 4 Whiskeys	16 Romeos 4 Whiskeys	16 Romeos 4 Whiskeys	16 Romeos 4 Whiskeys	16 Romeos 4 Whiskeys
[redacted] 25X1									
42nd Squadron Xiangshan Naval Facility	0	0	0	0	5 Romeos 4 Whiskeys 2 S-1s	10 Romeos 4 Whiskeys 2 S-1s	10 Romeos 4 Whiskeys 2 S-1s	10 Romeos 4 Whiskeys	16 Romeos 4 Whiskeys
[redacted] 25X1									
South Sea Fleet									
32nd Squadron Yulin Submarine Base	10 Romeos	10 Romeos	10 Romeos	10 Romeos	11 Romeos	18 Romeos	16 Romeos	17 Romeos	18 Romeos
[redacted] 25X1									
52nd Squadron Xiachuan Tao Submarine Base	0	0	0	0	0	0	2 Romeos	2 Romeos	2 Romeos
[redacted] 25X1									

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Kiangnan.[3] However, the terms of the contract referring to repair activity have never been fulfilled. Romeo and Whiskey SSs, and occasional surface combatants still undergo repair/overhaul at the shipyard (Figure 3). The Chinese may have been able to circumvent this contract stipulation by restricting the initial modernization effort to the shipbuilding area and shifting later modernization to the repair/overhaul area of the shipyard.

8. (S/WN) In 1978, an attempt to build what probably would have been a Ming SS was started. The buildingway at reporting position (RP) 13[4] (old buildingway 5) was cleared and a submarine stern section had been moved onto it by late March 1978. Construction peaked by late 1978, when all of the sections had been joined. Only the upper outer hull plating and sail were missing. Several major differences from a Romeo SS were observed. Changes had been made in the external access openings and the limber hole patterns, and additional saddle tanks had been added in the bow and stern. This submarine remained canvas covered on the buildingway throughout 1979. In May 1980, the pressure hull sections were dismantled and moved into open storage, where they have remained (Figure 2). It is not known if the submarine was disassembled because of a design/construction failure or as a result of the contract with the Japanese.

Wuhan Shipyard Wuchang

9. (S/WN) The rate of Submarine construction at Wuhan has slowed to one submarine per year. From 1973 through 1981, at least 22 Romeo SSs and one Ming SS were built at Wuhan. Submarine construction increased slightly in 1978-1979, when three Romeos and one Ming were launched. Since 1980, a larger portion of the shipyard resources has been devoted to other programs.

10. (S/WN) Several major changes at Wuhan have affected submarine construction. The most significant is the increase in the number of submarines in repair/overhaul at the shipyard (Figure 4). Since early 1980, at least 11 Romeos have undergone major repair/overhaul at the shipyard. Prior to 1980, little if any of this type of work was done here. Submarine repair and overhaul were usually performed in Shanghai. However, because of the increasing age of the Chinese submarine fleet and the scarcity of adequate repair facilities, a greater share of shipyard resources at Wuhan has been devoted to repair and overhaul.

11. (S/WN) The other change affecting construction has been the start of a modernization program at the shipyard. Submarine construction and repair on the buildingway at RP 9[5] ceased between November 1981 and April 1982. Several small river cargo barges were built after submarine construction stopped. However, by July, a large crane had been installed on the buildingway, halting the cargo barge construction (Figure 5). The crane had been placed on a temporary track to assist in the installation of support columns for a fabrication/construction hall. These columns, which were along the buildingway, have been stacked next to and inside the fabrication building. The only buildingway remaining in the submarine construction program on [redacted] is the one at RP 10. 25X1

Huangpu Naval Base and Shipyard

12. (S/WN) Construction of Romeo SSs has been reduced since 1974. Between 1975 and 1980 no launches from this shipyard were detected, although pieces of outer hull plate and pressure hull sections were continuously present in the open storage area (Figure 6). The monitoring of

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submarine construction at this shipyard is extremely difficult because of the covered construction hall. In addition, once launched, Romeo SSs fit out at the same quay as submarines that have returned to the shipyard for repairs.

13. (S/WN) Between 1975 and 1980, Hainan submarine chasers (PCSs) and medium-sized tugboats were also built at Huangpu. By late 1979, Hainan PCS construction was slowing and a large number of submarine pressure hull sections began to disappear from open storage. Between late December 1979 and February 1980, a Romeo SS was launched. The next detected launch in October 1981 was preceded by the disappearance of pressure hull sections and outer hull plates. The launch in 1981 was confirmed by the presence of a Romeo SS-associated 19-block keel-block pattern in the bottom of the launch dock.

14. (S/) Indications of at least one more Romeo SS under construction in the construction hall were observed in early 1982. Four pressure hull sections which had been next to the construction hall were probably moved into the construction hall. This submarine may be finished by the end of 1982 and could be the last Romeo submarine built at this shipyard. Collateral information indicates that Huangpu will be involved in the construction of legs for jack-up oil rigs and offshore oil support ships.[1] Components for the jack-up oil rig legs were observed at the shipyard on imagery of (Figure 7). Also, no additional submarine components have been observed in the open storage areas. 25X1 25X1

Fuling Shipyard

15. (S/WN) Diesel attack submarine construction started at Fuling in mid-1978, when pieces of submarine outer hull plate were present. By 1979, pieces of outer hull plate for two submarines were present in an open storage area. Monitoring of submarine construction is difficult because of the covered main construction hall (Figure 8). Submarine pressure hull sections are assembled in subassembly buildings and moved by transverser to the main construction hall for final assembly. Only by monitoring the number of components in the open storage area and correlating this with the movement of the transverser carriages can the level of submarine construction activity be gauged.

16. (S/WN) The current production level at this shipyard is one Romeo SS per year. Two Romeos have been launched from Fuling, the first in 1980 and the second in 1981. A probable pressure hull section was identified in a subassembly building in early 1982, an indication that work on a third Romeo was underway. In addition, the transporter dock used to carry submarines downstream to Shanghai had returned to the shipyard by early July 1982. The return of the transporter dock was the first indication of an upcoming submarine launch from Fuling.

Imagery Analyst's Comments

17. (S/WN) Construction of Romeo SSs will probably continue on a limited basis through the 1980s. The current construction level will be sufficient to replace older Whiskey SSs and Romeo SSs removed from active service. In addition, a limited number of Romeo SSs will probably be built for export. Major improvements to the Romeo SS design will probably not be realized; however, some improvements, either through indigenous research and development, or by the acquisition of foreign technology, will probably be made to the sonar, diesel propulsion, or torpedo technology. The Ming SS, a Chinese attempt to improve the Romeo, has apparently been unsuccessful.

REFERENCES

IMAGERY

(S/WN) All applicable imagery acquired through [redacted] was used in the preparation of this report. 25X1

DOCUMENTS

1. USDLO/Hong Kong. IR 6-842-0321 82, *Guangzhou Shipbuilding Corporation Future Production Plans (U)*, 220453Z Jun 82 (CONFIDENTIAL) [redacted] 25X1
2. DIA. DDB-1200-107-81-P1, *Naval Order of Battle, Volume VII, Part I, China, Taiwan, Japan (U)*, Oct 81 (SECRET) [redacted] 25X1

[redacted] 25X1

4. DIA. NDA-06/5037/77, *National Basic Reference Graphic, China, Wu-han Shipyard Wu-chang*, Feb 77 (SECRET) [redacted] 25X1
5. DIA. NDA-06/5014/77, *National Basic Reference Graphic, China, Shanghai Shipyard Kiangnan Dock Company*, 30 Dec 76 (SECRET) [redacted] 25X1

RELATED DOCUMENTS

NPIC. Z-20032/80, IAR-0123/80, *Submarine Construction at Fuling Shipyard, China (S)*, (SECRET) [redacted] 25X1 25X1

CIA/DI/IAS. [redacted] *Chinese Submarine Production, January 1974-February 1976*, Jun 76 (TOP SECRET [redacted] 25X1 25X1

CIA/DI/IAS. [redacted] MD 136/73, *Chinese Submarine Production for 1973*, Mar 74 (TOP SECRET [redacted] 25X1 25X1

CIA/DI/IAS. [redacted] MD 60/73, *Chinese Submarine Production for 1972*, Apr 73 (TOP SECRET [redacted] 25X1 25X1

CIA/DI/IAS. [redacted] MD 93/72, *Submarine Production at Wu-han Shipyard Wu-chang and Shang-hai Shipyard Kiang-nan, December 1967—February 1972*, Mar 72 (TOP SECRET [redacted] 25X1 25X1

CIA/NFAC. [redacted] IS 78-10189K, *Chinese Submarine Production, February 1976—Early May 1978*, Jul 78 (TOP SECRET [redacted] 25X1 25X1

DIA. [redacted] IAR-7-81, *Romeo Submarine Repairs at Huangpu Naval Base and Shipyard, PRC (S)*, Nov 81 (TOP SECRET [redacted] 25X1 25X1

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(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Asian Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1 25X1

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